



BLACK SECURITY PRODUCTS

AVBD 531

PRODUCT DATA · 2026



M30 P1 DROP ARM

CRASH-RATED ACTIVE VEHICLE BARRIER

A 24-foot clear opening on two drilled piers — the same Ø36" pier BSP's cable barrier already uses. No excavator, no square footings, no second crew. Crash-tested to ASTM F2656-23 and listed on the DoD Anti-Ram Vehicle Barrier List.

TWO DRILLED PIERS

ASTM F2656-23 · M30 P1

MADE IN THE USA

DOD ANTI-RAM LIST

STOPPING THE TRUCK IS THE EASY PART.

Every crash-rated drop arm on the market stops a truck. What separates them is what it costs to put one in the ground — and that is decided by the foundation, not the barrier.

Competing drop arms sit on large square footings that need an excavator, formwork, spoil removal and a second mobilization. **BSP's sits on two Ø36" drilled piers** — the same pier diameter, the same auger and the same rebar cage the BSP cable barrier already uses on the same site.

The posts come from the same family too. A contractor running BSP perimeter can install the boundary and the opening with one rig, one post inventory and one skill set. That is where the cost difference comes from, and it is structural rather than a discount.



M30 P1 Drop Arm installed at a controlled entry point, shown with the arm lowered.

AFTER THE IMPACT

At Applus IDIADA KARCO the 14,722-lb truck was **disabled and the pathway remained blocked**. An active barrier that stops the vehicle but opens the road afterwards has only done half the job.

24'

CLEAR OPENING
288 1/4" OVERALL

2

DRILLED PIERS —
THE ENTIRE FOUNDATION

Ø36"

SAME PIER AS THE
BSP CABLE BARRIER

3.24'

MEASURED PENETRATION
P1 LIMIT IS 3.28'

SPECIFIED & DEPLOYED FOR

Entry control points & ACPs
Federal & agency facilities
Military installations

Electric utilities & substations
Data centers & network facilities
Airports & transportation hubs

Ports, rail & logistics yards
Oil, gas & petrochemical sites
Corporate & institutional campuses

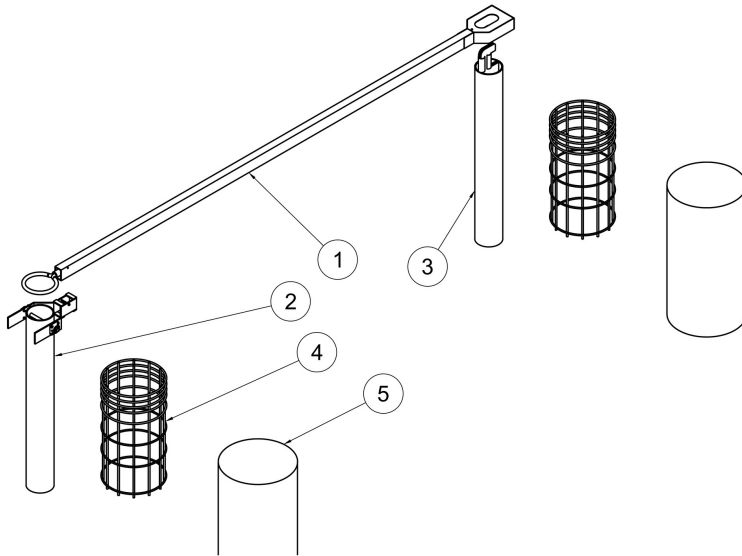
ASTM F2656-23

M30 · P1

LISTED — DOD ANTI-RAM VEHICLE BARRIER LIST

Crash tested by Applus IDIADA KARCO Engineering, 28 March 2024, report TR-P44098-01. Accepted by the U.S. Army Corps of Engineers Protective Design Center, March 2025 — see page 5.

FIVE COMPONENTS. TWO DRILLED PIERS.



Exploded isometric — arm assembly, hinge post, latch post, rebar cages and drilled pier foundations.

1 Arm Assembly

288¼" overall, carried at 36" above grade. Takes the vehicle across the full clear opening.

2 Hinge Post

Drives and carries the arm. Set 43" above grade in a Ø36" pier, filled to the top with concrete.

3 Latch Post

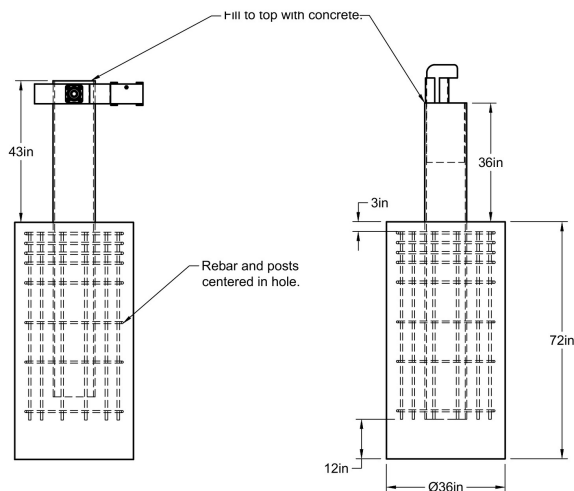
Receives and restrains the arm at the closed position — the point the truck actually loads.

4 Rebar Cage ×2

Ø30" × 57", twelve #5 vertical bars, ASTM A615 Grade 60. Shop-assembled, dropped straight in.

5 Drilled Pier Foundation ×2

Ø36" × 72" deep, 4,000 PSI concrete. The same pier the BSP cable barrier uses — one auger covers both.



Hinge Post Install Detail
Scale: 1:24

Latch Post Install Detail
Scale: 1:24

Hinge and latch post install details — both piers Ø36" × 72", rebar and post centered in the pier.

NO SQUARE FOOTING

A drilled pier is bored, caged and poured. There is no excavation, no formwork, no shoring and no spoil to haul — the difference between a crew with an auger and a crew with an excavator.

SHARED WITH THE CABLE BARRIER

Same pier diameter, same rebar practice, same post family — so the boundary and the opening are one scope of work rather than two.

TWO PIERS. ONE PIN.

The civil scope is two bored piers and less than three and a half yards of concrete. The barrier itself lands as three pieces — arm, hinge post, latch post — and the arm assembles to the hinge post **with a single pin**. There is no formwork to build, no excavation to shore, no spoil to haul and no foundation heating to design around.



Installed drop arm at a commercial logistics entry — arm lowered, roadside footprint kept tight.

WHAT THE CONTRACTOR ACTUALLY DOES

1. Drill two Ø36" piers to 72" — the same auger used for the cable barrier line.
2. Drop in the shop-assembled Ø30" rebar cages and set the posts centered.
3. Pour 4,000 PSI concrete to grade. Earth-formed — no forms to build or strip.
4. Hang the arm on the hinge post with one pin and connect the automation.



Arm raised through a full 90°, clear of high-sided vehicles.

3.1

CUBIC YARDS
OF CONCRETE

2

BORED PIERS —
NO EXCAVATION

1

PIN TO HANG
THE ARM

2-3

WEEKS FROM
ORDER TO SHIP

A SMALL ROADSIDE FOOTPRINT

A Ø36" pier occupies a fraction of the ground a square footing needs, which is what lets the barrier go into tight entry points, existing islands and constrained ROW without redesigning the approach around the foundation.

THE TRUCK STOPPED. THE ROAD STAYED SHUT.



After impact at Applus IDIADA KARCO — the cab is destroyed, the arm is still spanning the opening and both posts are standing.

A 14,722-lb truck at 33.67 mph. Maximum dynamic penetration **3.24 ft**, against a P1 limit of 3.28 ft — and a maximum **static** penetration of **-3.45 ft**, meaning the barrier pushed the vehicle back out of the protected zone.

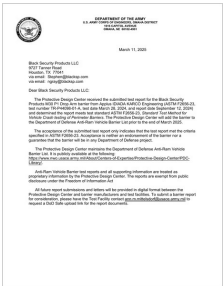
The vehicle was disabled. The pathway remained blocked.

WHY THAT LAST LINE MATTERS

An active barrier that arrests the vehicle but leaves the opening passable has protected nothing. The test record states the pathway stayed blocked after impact.

THE TEST RECORD

ITEM	RESULT	ITEM	RESULT
Test authority	Applus IDIADA KARCO	Test vehicle	14,722 lb standard truck (M)
Report number	TR-P44098-01	Impact speed	33.67 mph
Test date	28 March 2024	Dynamic penetration	3.24 ft (limit 3.28 ft)
Standard	ASTM F2656-23	Static penetration	-3.45 ft
Rating achieved	M30 · P1	After impact	Disabled; pathway blocked



USACE PROTECTIVE DESIGN CENTER — ACCEPTANCE

The Protective Design Center reviewed the KARCO report and confirmed it meets ASTM F2656-23, adding the M30 P1 Drop Arm to the DoD Anti-Ram Vehicle Barrier List in March 2025. The list is published at nwo.usace.army.mil and can be checked by any customer. Acceptance confirms the report met the standard — it is not a DoD endorsement, and BSP does not present it as one.

ASTM F2656-23

M30 · P1

LISTED — DOD ANTI-RAM VEHICLE BARRIER LIST

HYDRAULIC, ELECTRIC OR A HAND PUMP.

The same barrier is specified three ways. Sites with power and traffic take hydraulic or electric automation; sites without take a hydraulic hand pump. The crash rating does not change with the drive — it is the arm, the posts and the piers that stop the truck.

Hydraulic

The standard automated drive. Open and close in 5 to 7 seconds, with an optional system heater for cold sites.

Electric

Where hydraulics are unwanted or maintenance access is limited. Same cycle performance, same controls.

Manual hand pump

No site power at all. Minimal counterbalance weight is needed because the crash beam is aluminum.

POWER	
Standard supply	120 / 240 V, 60 Hz, 1 PH, 30 A
Three phase	208 V, 60 Hz, 3 PH, 30 A
International	240 V, 50 Hz, 1 PH, 30 A
Low voltage	24 VDC operation
Battery back-up	Over 200 cycles
Solar	Compatible — no site power required
Cold weather	Hydraulic system heater option
Operating range	−40 °F to 160 °F

CONTROL & SAFETY	
Traffic signals	Integrated, optional
Presence detection	IR / photoelectric sensors
Warning	Audible and visible alarms · LED light strip
Access control	RFID, keypad or biometric
Multiple barriers	Master / slave control
Remote	Monitoring and control from phone or PC
Autonomous	Fully autonomous control systems available
Enclosures	NEMA / IP67

COMPLIANCE

ASTM F2656-23	UL 325	NFPA 70	NEMA / IP67	BUY AMERICAN
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BI-DIRECTIONAL BY CERTIFICATION

The M30 P1 Drop Arm is crash certified from **both directions of travel**. An entry lane and an exit lane take the same barrier and the same drawing — no handed variants to specify, stock or install the wrong way round.

CYCLE

Open / close	5 – 7 seconds
Open angle	90°
Clear opening	12 – 35 ft
Crash beam	Aluminum
Field assembly	Single pin

SAME THREAT. ONE PRODUCT STANDS ABOVE.

Both barriers stop a 15,000-lb truck. Every figure below is taken from the two manufacturers' own published literature — BSP drawing V3 and the KARCO test report, against HySecurity's StrongArm M30/M50 specification sheet, Rev D.

	BSP M30 P1 DROP ARM AVBD 531	HYSECURITY STRONGARM M30
Crash standard cited	ASTM F2656-23	ASTM F2656-07
Clear opening as rated	24 ft	12 ft (per published footnote)
Clear opening range	12–35 ft	12–24 ft, in 2 ft increments
Foundation	Two Ø36" × 72" drilled piers, earth-formed	Square footings — 4 × 4 × 4 ft deep mount, or 6 × 6 × 2 ft shallow
Concrete volume	3.1 cu yd	4.7 – 5.3 cu yd
Foundation method	Bored pier — earth-formed, no formwork	Square footing
Rated both directions	Yes — crash certified bi-directional	Not stated
Open / close time	5 – 7 seconds	6 – 8 seconds
Operation	Hydraulic, electric or manual; 24 VDC, battery and solar options	Hydraulic; separate no-power models with rotary crank
Operating temperature	–40 to 160 °F	–40 to 158 °F

Compiled from published manufacturer literature: BSP M30 P1 Drop Arm drawing V3 and Applus IDIADA KARCO report TR-P44098-01; HySecurity StrongArm M30/M50 Technical Specifications, 945159823 Rev-D 01/2024. Concrete volumes calculated from each manufacturer's published foundation geometry. "Not stated" means the figure does not appear in the literature reviewed — it is not a claim that the capability is absent. Verify against current literature before specifying.

THESE ARE NOT THE SAME TEST

ASTM F2656 has been revised repeatedly since 2007 — including how the barrier reference point is defined, which is the datum every penetration measurement is taken from. A P1 certified under one edition and a P1 certified under another are **not interchangeable numbers**. The USACE Protective Design Center accepts test reports written to the current edition. BSP's rating is ASTM F2656-23, tested March 2024 and accepted March 2025.

WHAT THE DIFFERENCES ACTUALLY MEAN

Sixteen years of standard

A 2007-edition certificate on 2024 literature is not the document a reviewing engineer works from today.

Twice the rated opening

BSP tested at a 24 ft clear opening. The competing rating is published as applying at 12 ft. A wider gate is the harder test.

An auger, not an excavator

Two bored piers against two square footings — about a third less concrete, no formwork, and the rig that already drills the cable barrier line.

THE BOUNDARY AND THE OPENING.

A perimeter is two problems. The boundary has to hold a line nobody is meant to cross; the opening has to let the right vehicles through and stop the wrong one. BSP builds both — and because they share a pier diameter, a rebar practice and a post family, they are **one scope of work rather than two**.



The boundary — BSP Passive Cable Barrier, AVBD 100 Series. M30 and M50, P1 and P2, DoD-listed.



The opening — M30 P1 Drop Arm, AVBD 531. Same Ø36" pier, same auger, same crew.

WHAT THE CONTRACTOR SAVES

One drill rig

Ø36" piers for the drop arm, Ø24–36" for the cable barrier line. The same auger and the same crew do the whole perimeter — no second mobilization for the gate.

One post family

The drop arm posts come from the same family as the cable barrier crash posts. One inventory, one set of details, one set of installation habits.

One responsible party

Where the boundary meets the opening is a published BSP detail, not an interface between two suppliers with two warranties and two answers when it is inspected.

ALSO IN FRONT OF ANY FENCE

The cable barrier line runs behind palisade, chain link, ornamental iron or welded mesh, new build or retrofit — so an existing fence can stay while the perimeter gains a crash rating and a rated opening.

SHARED BETWEEN BOTH

Pier diameter	Ø36"
Pier depth	72"
Concrete	4,000 PSI
Rebar	ASTM A615 Gr 60
Standard	ASTM F2656-23
DoD listed	Both products

WHERE TRAFFIC HAS TO KEEP MOVING.

A drop arm earns its place where a boundary has to open dozens of times a day and still be rated when it closes. Five to seven seconds a cycle, over 200 cycles on battery back-up, and a footprint small enough to fit entry points that were laid out before anyone thought about vehicle barriers.



Installed M30 P1 Drop Arms at data-center and commercial logistics entry control points.

INDUSTRIES & FACILITIES SERVED

Entry control points & ACPs
Military installations & bases
Federal & agency facilities
Federal law-enforcement facilities

Data centers & network facilities
Electric utilities & substations
Oil, gas & petrochemical sites
LNG & energy infrastructure

Ports, rail & logistics yards
Airports & transportation hubs
Commercial distribution centers
Corporate & institutional campuses

SPECIFIED & INSTALLED FOR

BSP perimeter systems protect facilities for the U.S. Army Corps of Engineers, NAVFAC, the U.S. Air Force and federal agencies, alongside commercial operators in data-center, energy and logistics infrastructure. Named references are available under NDA for qualified projects.

WHERE THE OPENING CAME FIRST

Most entry control points were designed before the barrier. A Ø36" pier fits islands, medians and constrained right-of-way that a 4 ft or 6 ft square footing cannot — which is often the difference between adding a rated barrier and rebuilding the approach.

SITE ASSESSMENT

BSP provides free site assessments. Our engineering team reviews the approach, standoff, traffic volume and power before specifying opening width, drive and controls.

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blacksp.com/contact

FOUR DECISIONS. ONE DRAWING.

Specifying the barrier is four choices — how wide the opening is, what drives it, what powers it and what controls it. The crash rating, the piers and the rebar schedule do not change with any of them.

Decision	Options	Notes
1 • Clear opening	12 ft to 35 ft	Crash tested at a 24 ft clear opening. Confirm rating applicability with BSP engineering for the specified width.
2 • Drive	Hydraulic · Electric · Manual hand pump	Hydraulic is standard. Manual suits sites with no power at all; the aluminum beam keeps counterbalance weight low.
3 • Power	120 / 240 V 1 PH · 208 V 3 PH · 240 V 50 Hz · 24 VDC · battery · solar	Battery back-up carries over 200 cycles. Solar removes the site power requirement entirely.
4 • Control	Traffic signals · IR / photo sensors · alarms · RFID, keypad or biometric · master / slave · remote	Fully autonomous control systems available. Monitoring and control from phone or PC.

FINISH

Standard	Hot-dip galvanized
Optional	Polyester powder coat over galvanizing
Arm	Aluminum, high-visibility banding
Lighting	LED light strip
Enclosures	NEMA / IP67

WHAT DOES NOT CHANGE

Two Ø36" × 72" drilled piers. 4,000 PSI concrete. Ø30" rebar cages, twelve #5 verticals, ASTM A615 Grade 60. Single-pin arm assembly. Bi-directional crash certification. Those are fixed across every configuration, which is what keeps the civil drawing the same job every time.

LEAD TIME & DELIVERY

2–3 weeks from order

Standard configurations ship in two to three weeks — manufactured in Houston, not imported against a container schedule.

Three pieces to site

Arm, hinge post and latch post. The rebar cages arrive shop-assembled and drop straight into the bored pier.

No cold-weather design

The foundation needs no heating. An optional hydraulic system heater covers the drive on cold sites.

SPECIFICATIONS & STANDARDS.

SYSTEM	
Crash rating	ASTM F2656-23, M30 P1
Direction	Bi-directional certification
Clear opening, tested	24 ft (288¼" overall)
Clear opening, available	12 ft to 35 ft
Arm height above grade	36"
Hinge post above grade	43"
Crash beam	Aluminum
Field assembly	Single pin
Foundation	Two Ø36" × 72" drilled piers
Concrete	4,000 PSI · under 3.5 cu yd total
Rebar cage	Ø30" × 57", twelve #5 verticals
Reinforcement	ASTM A615 Grade 60, #3-#10
Formwork	None — earth-formed pier
Open angle	90°
Open / close time	5 – 7 seconds
Operating temperature	-40 °F to 160 °F
Finish	Hot-dip galvanized; powder coat optional
Warranty	1 year parts · 5 years labor
Origin	Manufactured in the United States

REFERENCE STANDARDS & COMPLIANCE

ASTM F2656-23	Vehicle crash testing of perimeter barriers
ASTM A615	Deformed carbon-steel reinforcing bars
UL 325	Door, drapery, gate and louver operators
NFPA 70	National Electrical Code
NEMA / IP67	Enclosure protection
Buy American	Compliant

SECTION 34 71 19.16
ACTIVE VEHICLE BARRIER — DROP ARM

PART 2 — PRODUCTS

2.01 MANUFACTURER

The active drop arm vehicle barrier shall be the M30 P1 Drop Arm, AVBD 531, manufactured by Black Security Products, LLC, Houston, Texas. Clear opening [] ft.

2.02 PERFORMANCE

- A. The barrier shall be crash tested to ASTM F2656-23 at the M30 condition designation and achieve a P1 penetration rating.
- B. The as-tested configuration shall be listed on the U.S. Department of Defense Anti-Ram Vehicle Barrier List maintained by the USACE Protective Design Center.
- C. The barrier shall be crash certified from both directions of travel.

2.03 MATERIALS

- A. The crash beam shall be aluminum, assembled to the hinge post with a single pin.
- B. Hinge and latch posts shall each be set in a Ø36" drilled pier to a depth of 72", with a Ø30" reinforcing cage of twelve #5 vertical bars, and filled with 4,000 PSI concrete.
- C. Foundations shall be earth-formed drilled piers. Square excavated footings and formwork shall not be required.

2.04 OPERATION

Drive shall be [hydraulic] [electric] [manual hydraulic hand pump]. Open and close time shall not exceed 7 seconds.

PROCUREMENT

CAGE	7MT82
DUNS	83-888-8670
NAICS	339999
CSI section	34 71 19.16
Product code	AVBD 531
Origin	Made in the USA

ENGINEERING SUPPORT

From layout to engineer-stamped drawings, BSP works directly with your design team. Full three-part specification, CAD, O&M manual and submittal package on request.



BLACK SECURITY PRODUCTS



TRAFFIC MOVES. THE THREAT DOESN'T.

Black Security Products designs and manufactures high-security perimeter protection systems for military installations, government facilities, data centers, utilities and critical infrastructure worldwide — with an emphasis on anti-terrorism and force protection.

PERIMETER SECURITY PRODUCT FAMILY

ACTIVE VEHICLE BARRIERS

Shallow Wedge M50 P1 — AVBD 452
Wedge Barrier M50 P1 — AVBD 451
M50 Drop Arm — AVBD 551/552
M30 P1 Drop Arm — AVBD 531
Defender Net Barrier — AVBD 651
Bi-Folding Speed Gate — AVBD 210
Anti-Ram Crash Gates — AVBD 230/250

PASSIVE VEHICLE BARRIERS

Drill-and-Set Bollard — AVBD 331
Crash-Rated Bollards — AVBD 300
Cable Barrier M30 — AVBD 131/132
Cable Barrier M50 — AVBD 151/152
Rapid Deployment MPPD — AVBD 700

SECURITY FENCING

SecurePale™ Palisade — AVBD 1101
SecureMesh™ — AVBD 1001
SecureMesh™ Integrated PVB — AVBD 1002
SecureMesh™ Delay — AVBD 1003
ENC Non-Conductive — AVBD 1200
Ballistic Rated Fence — AVBD 1300

HEADQUARTERS

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PROCUREMENT

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REQUEST A FREE SITE ASSESSMENT

Talk to a BSP perimeter specialist about your project.

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